CHEMISTRY

BOOKS - ACCURATE PUBLICATION

MODEL TEST PAPER-2

Section A Mcq

1. In comparison to a 0.01 M solution of glucose, the depression in freezing point of a 0.01M $MgCl_2$ solution is :

A. the same

B. about twice

C. about three times

D. about six times

Answer:

Watch Video Solution

2. Write complete balanced equation for the following reaction : sulphur dioxide + oxygen → sulphur trioxide

Watch Video Solution

3. Write complete balanced equation for the following reaction : aluminium hydroxide → aluminium oxide + water

Watch Video Solution

4. The value of Henry's constant K_H is :

A. greater for gases with higher solubility

B. greater for gases with lower solubility

C. constant for all gases

D. not release to the solubility of gases

Answer:

Watch Video Solution

5. If molality of the dilute solution is doubled, the value of molal depression constant K_f will be

A. halved

B. tripled

C. unchanged

D. doubled

Answer:

Watch Video Solution

6. Fool's gold is known as

A. ZnS

B. FeS_2

C. Hg_2O

D. Na_2SO_3

Answer:

Watch Video Solution

7. Which of the following has the maximum number of unpaired electrons?

A. Mg^{2+}

B. Ti^{3+}

C. V^{3+}

D. Fe^{2+},

Answer:

Watch Video Solution

8. Which of the following has magnesium?

A. Chlorophll

B. Haemocyanin

C. Carbonic anhydrate

D. Vitamin B_{12}

Answer:

Watch Video Solution

9. Mohr's salt is

A. $Fe_2(SO_4)_3(NH_4)_2SO_{46}H_2O$

B. $FeSO_4(NH_4)_2SO_{4.6}H_2O$

C. $MgSO_4.7H_2O$

D. $FeSO_{4.7}H_2O$

Answer:

Watch Video Solution

10. The reaction of Lucas reagent is fast with

A. ethanol

B. methanol

C. 2-propanol

D. 2-methyl-2-propanol

Answer:

Watch Video Solution

11. Acetaldehyde cannot exhibit :

A. Tollen's test

B. Benedict's test

C. Lucas test

D. Iodoform test

Answer:

Watch Video Solution

12. Base catalyzed aldol condensation occurs with

A. Propionaldehyde

B. 2,2,-dimethyl propionaldehyde

C. Benzaldehyde

D. None of the above

Answer:

Watch Video Solution

Watch Video Solution

13. Which of the aldehydes is most reactive towards nucleophilic addition?

A. HCHO

B. CH_3CHO

C. $C_6H_5 - CHO$

D. All are equally reactive

Answer:

Watch Video Solution

14. Aldehyde and ketones cannot be distinguished by:

A. Molisch's test

B. Tollen's test

C. Benedict's test

D. Schiff's test

Answer:

Watch Video Solution

15. The one which is least basic is

A. NH_3

B. $C_6H_5NH_2$

C. $(C_6H_5)_3N$

D. $(C_6H_5)_2NH$

Answer:

Watch Video Solution

16. Which one of the following is more basic?

A. Aniline

B. p-Methoxyaniline

C. p-Nitroaniline

D. Benzylamine

Answer:

Watch Video Solution

17. Which base is present in RNA but not in DNA ?

A. Guanine

B. Cytosine

C. Uracil

D. Thymine

Answer:

 Watch Video Solution

18. The secondary structure of a protein refers to

A. fixed configuration of the polypeptide backbone

B. alpha-helical backbone

C. hydrophobic interactions

D. sequence of alpha-amino acids.

Answer:

Watch Video Solution

Section A Passage

1. What is the difference between Ingestion and Digestion?

Watch Video Solution

2. what type of nutrition is shown by the plants?

Watch Video Solution

3. The particles of colloidal solution possess electrical charge which is responsible for the stability of these solutions. The charge on colloidal particles arises because of selective adsorption of ions which are common with their own lattice. The presence of charge on colloidal particles can be determined with the help of phenomenon known as electrophoresis. However, when some electrolyte is added, the charge -on the particles of dispersed phase gets neutralized and precipitation takes place. This process is also called coagulation. The coagulation is

given by Hardy Schulze rules. According to these rules the ions carrying the charge opposite to that of sol particles are effective and coagulating power of an electrolyte is directly propdrtional to the fourth power of the valency of the ion. Coagulation can also occur by mutual precipitation, by electrophoresis, by persistent dialysis or by heating or cooling.

What happens to the charge of particles when electrolyte is added ?

Watch Video Solution

4. Read the given passage and answers following questions :

The particles of colloidal solution possess electrical charge which is responsible for the stability of these solutions. The charge on colloidal particles arises because of selective adsorption of ions which are common with their own lattice. The presence of charge on colloidal particles can be determined with the help of phenomenon known as electrophoresis. However, when some electrolyte is added, the charge on the

particles of, dispersed phase gets neutralized and precipitation takes place. This process is also called coagulation. The coagulation is given by Hardy Schulze rules. According to these rules the ions carrying the charge opposite to that of sol particles are effective and coagulating power of an electrolyte is directly proportional to the fourth power of the valency of the ion. Coagulation can also occur by mutual precipitation , by electrophoresis, by persistent dialysis or by heating or cooling.

Answer the following questions :

Name the other ways by which coagulation can occur.

Watch Video Solution

5. The particles of colloidal solution possess electrical charge which is responsible for the stability of these solutions. The charge on colloidal particles arises because of selective adsorption of ions which are common with their own lattice. The presence of charge on colloidal particles can be determined with the

help of phenomenon known as electrophoresis. However, when some electrolyte is added, the charge -on the particles of dispersed phase gets neutralized and precipitation takes place. This process is also called coagulation. The coagulation is given by Hardy Schulze rules. According to these rules the ions carrying the charge opposite to that of sol particles are effective and coagulating power of an electrolyte is directly propdrtional to the fourth power of the valency of the ion. Coagulation can also occur by mutual precipitation, by

electrophoresis, by persistent dialysis or by heating or cooling.

What is Hardy Schulze rule ?

Watch Video Solution

Section A True False

1. Azo dye test can be used to distinguish aromatic primary amines from aliphatic primary.

Watch Video Solution

2. The dipole moment of CH_3F is larger than that of CH_3Cl.

Watch Video Solution

3. Why do aldehydes and ketones undergo nucleophilic addition reaction?

Watch Video Solution

4. Alcohol are stronger acids than water.

A. True

B. False

C.

D.

Answer:

Watch Video Solution

5. Deficiency of Vitamin D causes

Watch Video Solution

Section B Short Answer

1. Why is Copper considered as transition metal ?

Watch Video Solution

2. Explain

chelate

Watch Video Solution

3. Explain

ligands

Watch Video Solution

4. Write the IUPAC name of the $K\left[Ag(CN)_2\right]$

Watch Video Solution

5. Write IUPAC name of $\left[Ni(H_2O)_2(NH_3)_4\right]SO_4$.

Watch Video Solution

6. Why Zr and Hf show similar chemical properties ?

Watch Video Solution

7. Account for the following: Among the halogens F_2 is the strongest oxidising agent.

Watch Video Solution

8. What is the difference between globular and fibrous protein ?

Watch Video Solution

9. Find mole fraction of ethanol and water in a sample of rectified spirit which contain 95 % ethanol by mass.

Watch Video Solution

10. A solution of solute X'in benzene boils at $0.126K$ higher than benzene. What is the molality of the solution ?

(K_b for benzene = 2.52 K/m)

Watch Video Solution

11. The half-life for radioactive decay of $.^{14}C$ is 5730 years. An archaeological artifact contented wood that has only 80% of the $.^{14}C$ found in living tree. Estimate the age of the sample.

Watch Video Solution

12. For a reaction

$2NO(g) + O_2(g) \rightarrow 2NO_2(g)$

Rate= k $[NO]^2[O_2]$, if the volume of the

reaction vessel is double. What is the rate of reaction.

A. (a) will diminish to $1/4$ of initial value

B. (b) will diminish to $1/8$ of initial value

C. (c) will grow 4 times

D. (d) will grow 8 times

Answer:

Watch Video Solution

13. Which factor Rate of reaction depends upon ?

Watch Video Solution

14. What is relation between conductivity and molar conductivity ?

Watch Video Solution

15. Explain the following :

Iodine is more soluble in KI solution than in water.

Watch Video Solution

16. Why ICI is more reactive than I_2 ?

Watch Video Solution

Section C Long Answer Questions

1. How will you prepare Secondary, Tertiary, primary alcohol from Grignard reagent ?

Watch Video Solution

2. Write the following reactions :

Williamson's synthesis

Watch Video Solution

3. What are Etard reaction?

Watch Video Solution

4. Write Aldol condensation reaction.

Watch Video Solution

5. First order reaction is found to have rate constant, $k = 5.5 \times 10^{-14} s^{-1}$. Find the half life to the reaction.

Watch Video Solution

6. The rate constant for a first order reaction Is 90 s^{-1} .How much time will it take to reduce the concentration of the reactant to $\frac{1}{20^{th}}$ of its Initial value ?

Watch Video Solution

7. Write Nernst equation and calculate e.m.f. of the cell at 298 k.

$$Mg(s)\left|Mg^{2+}(0.001M)\right|\left|Cu^{2+}(0.0001M)\right|Cu(s)$$

Watch Video Solution

8. Why is H_2S less acidic than H_2 Te ?

Watch Video Solution

Section D Long Answer Questions Type Ii

1. With the help of resonance show that aryl halides are lesser reactive than alkyl halides.

Watch Video Solution

2. Haloalkanes react with potassium cyanide (KCN) to give alkyl cyanide, but gives alkyl isocyanide with silver cyanide (Ag CN).

Watch Video Solution

3. Explain SN_1 mechanism by taking example.

Watch Video Solution

4. How will you convert:

Chlorobenzene to DDT

Watch Video Solution

5. How will you convert:

But-1-ene to But-2-ene

Watch Video Solution

6. How will you convert:

Chlorobenzene to Benzoic acid

Watch Video Solution

7. Write down following name reaction :

Hunsdiecker reaction

Watch Video Solution

8. Write the following reactions:

Finkelstein reaction

Watch Video Solution

9. Solar energy is stored in the plants in_____ during photosynthesis.

Watch Video Solution

10. Explain why Cu(I) is diamagnetic while Cu(II) is paramagnetic in nature?

Watch Video Solution

11. Why are Mn^{2+} compounds more stable than Fe^{2+} compounds towards oxidation to their +3 state ?

Watch Video Solution

12. What are the main consequences of lanthanoid contraction ?

Watch Video Solution

13. Explain :Transition elements exhibit variable oxidation states.

Watch Video Solution

14. Scandium (z = 21) is a transition element but zinc (z = 30) is not. Explain.

Watch Video Solution